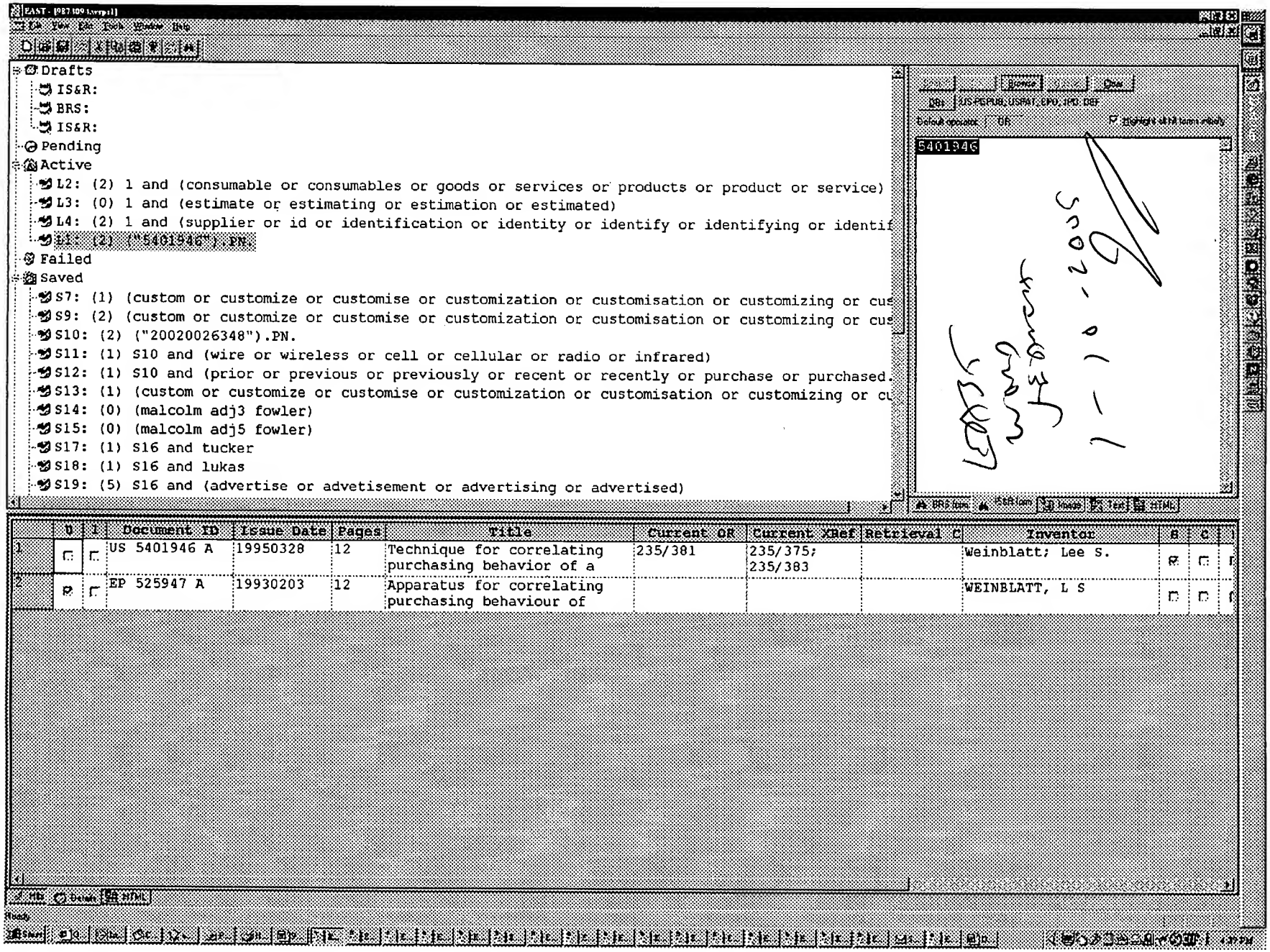

	U	I	Document ID	Issue Date	Pages	Title	Current OR	Current XRef	Retrieval C	Inventor	B	C
1	☐	☐	US 5401946 A	19950328	12	Technique for correlating purchasing behavior of a	235/381	235/375; 235/383		Weinblatt; Lee S.	☑	☐
2	☑	☐	EP 525947 A	19930203	12	Apparatus for correlating purchasing behaviour of				WEINBLATT, L S	☐	☐

US-PAT-NO: 5401946

DOCUMENT-IDENTIFIER: US 5401946 A

TITLE: Technique for correlating purchasing behavior of a consumer to advertisements

---------- KWIC ---------

Abstract Text - ABTX (1):

Advertisements and promotions to which a consumer has been exposed are monitored together with the subsequent purchasing behavior of that consumer. The information is combined to analyze whether and to what extent the advertisements and/or promotions influenced the consumer's purchases. Purchases are monitored by producing a machine readable record thereof with a store cash register. The consumer inserts this record into a home unit which stores this information. The home unit is also capable of issuing a reward to the consumer for cooperating. Also, the advertising, promotion and/or purchase data is classified by the home unit into selected categories which can be accessed by a computer for further processing to provide, for example, certain test results of interest relatively quickly because only a portion of all the collected data needs to be analyzed.

Brief Summary Text - BSTX (2):

This invention is directed to a technique which monitors the advertisements and promotions to which consumers selected as test subjects are exposed as well as the subsequent purchases made by those consumers and, in

particular, to an
improved technique for collecting more data than has previously been feasible,
and to correlate the purchases with the advertising and promotions.

Brief Summary Text - BSTX (3):

Expenditures on advertising (e.g. television commercials) and promotion
(e.g. coupons) of consumer products in the U.S. exceeded $110 billion for the
year 1990. Advertisers who spend such huge sums of money understandably want
to determine whether the money is being well spent and, if not, how
improvements can be made.

Brief Summary Text - BSTX (7):

A third technique involves a particular store that has been equipped with
special computer equipment to identify certain consumers and to record their
purchases. Identification of the consumer is accomplished with a card given to
the consumer and on which a unique code has been recorded. When the consumer
arrives at the cash register, the card is handed to the cashier who uses it to
enter the code. As the purchases are "rung-up" on the cash register, they are
also recorded as having been made by the consumer whose identity is established
by the code on the card. This purchasing behavior is stored in the special
computer, and the information is periodically downloaded to a computing center.
That computing center also receives information on the television commercials
to which the same consumer was exposed, and collected in the same way as
described above for the second technique. No media other than television are
provided for. Thus, it is possible to correlate the

purchases made with
television commercials. However, this approach requires installation of
relatively expensive computer equipment in a store, and only a very few stores
can, therefore, be involved in the monitoring effort. Consequently, purchases
made elsewhere by the consumer go unrecorded. As a result, the amount of
information collected may provide less than a meaningful sample.

Brief Summary Text - BSTX (8):

In addition to the necessity for the advertiser to have the above-discussed
advertising and purchase information, it is also valuable to collect, store and
analyze related information as well. For example, many products are sold with
promotions such as coupons, special sizes, product combination, sale price,
etc. With such information, the advertiser can determine whether the product
was likely to have been sold due to the advertisement or due to the promotion,
or perhaps due to both. None of the above-described techniques is capable of
collecting and storing such information. The terms "advertisement" and
"advertising" when used hereinafter should also be understood in context as
referring to promotions as well as radio, television and print advertising.

Brief Summary Text - BSTX (9):

Consumers have been given rewards as a part of known monitoring techniques
to improve the likelihood of obtaining an acceptable degree of cooperation from
the consumer. Although the consumers who have been selected as test subjects
may intend to cooperate, many things compete for time and attention with what

the consumer is asked to do so that purchasing behavior can be monitored.
Consequently, despite all the best intentions, the level of cooperation is
likely to drop. Rewards are designed to counter this. With the second known
technique discussed above, for example, once all the information on a
consumer's advertising monitoring and purchase behavior has been processed by
computer, certain rewards will be sent by mail. However, this can take several
weeks due to the magnitude of data that must be processed. The impact of the
reward diminishes with the amount of time which elapses from the doing of the
reward earning activity until the reward is received. Thus, it would be
helpful to speed up the process considerably. Also, the value of the reward to
the consumer could be enhanced if it were targeted better. The targeting
involves customizing the reward to the purchases that are made and/or the
consumer who makes them. For example, if the consumer buys clothing, then the
reward could be a dry-cleaning coupon. Likewise, if the particular consumer is
a female, the coupon might be for a suitable accessory to the clothing, such as
a scarf, perhaps even in the same store as the one where the clothing was
purchased. The possibilities are endless. However, the prior art has not
provided any way for speeding up the process of providing the reward and
targeting the reward in order to gain the very considerable benefit of
obtaining increased consumer cooperation.

Brief Summary Text - BSTX (10):

One further shortcoming of the prior art is the inability to monitor whether

direct mail advertising has been read or simply discarded. Direct mail
constitutes about 20% of all advertising in terms of outlay. It would be
highly useful for advertisers to know whether and how the consumer's purchasing
behavior is affected by direct mail advertising.

Brief Summary Text - BSTX (24):

Still another aspect of the present invention is directed to an apparatus
for monitoring the purchasing behavior of a consumer. A store terminal
produces a portable, machine-readable record of purchases made by the consumer.
A home unit is adapted for use in the consumer's house, and it includes means
for reading the machine-readable record and inputting signals therefrom into a
means for storing data.

Detailed Description Text - DETX (3):

It is desirable to monitor the exposure of a consumer who has been selected
as a test subject under realistic rather than artificial conditions.
Consequently, the testing environment is not that of a test laboratory but,
rather, any location to which the consumer is likely to go during a regular
day. This includes, of course, the home and other similarly common and normal
sites for one's daily activities. Otherwise, it is felt that the test results
may be skewed due to the artificial conditions to which the consumer would be
subjected. It is also preferable to minimize contact of the consumer with
testing personnel, and this is done by automating the monitoring process.

Detailed Description Text - DETX (4):

In order to automate monitoring of the consumer on his

daily routine, it is
necessary to provide him/her with an apparatus that can do the requisite
monitoring while not restricting his/her movement or being so obtrusive as to
somehow affect the testing. This is particularly so with respect to any
apparatus which monitors exposure to radio advertisements and print ads which
are likely to occur away from the house in contrast to television exposure
which is most likely to occur in the house. Thus, the apparatus for monitoring
the radio and print media is preferably portable and is such as to be
conveniently worn on the person of the consumer. For television commercials,
on the other hand, it is less important because an apparatus could effectively
be used which is installed in the home.

Detailed Description Text - DETX (5):

FIG. 1 depicts an advertising monitoring system 1 for monitoring consumer
exposure to the various types of advertisements, including print, radio and
television media. The monitoring results are stored in memory 3 to be later
combined in home unit 41 with information obtained from a purchase monitoring
apparatus 11 for processing and analysis by computer 4. Thus, data collected
from monitoring system 1 is ultimately input to computer 4 along with data
collected by purchase monitoring apparatus 11. Computer 4 then produces an
output showing the relationship of the monitored consumer exposure to
advertisements with respect to the purchased items. Computer 4 can be
programmed in a conventional, well known manner to output this relationship in
any desired form, such as tabulated or graphical.

Detailed Description Text - DETX (8):

In addition to use of U.S. Pat. No. 4,695,879 to monitor television commercials to which the consumer has been exposed, U.S. Pat. No. 4,718,106 mentioned above can, of course, also be used for this purpose by adapting it to television use rather than radio. In particular, the consumer/viewer test subject can be provided with circuitry incorporated, for example into a wristwatch. That circuitry would include a detector responsive to a code signal transmitted by the television station, for example, and in response only thereto a signal source in the television set would be activated. The resulting emitted signal from the signal source is detected by circuitry in the wristwatch and recorded as an "event" along with the time at which it occurred and it indicates "exposure" because the consumer was within a short distance from the set when it was tuned at that time to the channel transmitting the code signal (and therefore advertisement) of interest. All that information would be stored in memory incorporated within the wristwatch.

Detailed Description Text - DETX (10):

Monitoring system 1 is shown in the drawing as including electronic memory circuit 3 in which the information from apparatuses 5, 7 and 9 is stored. Thus, the data in circuit 3 contains measurements made in each of the radio, television and print media of the exposure by the consumer to advertisements. Circuit 3 has been depicted as a separate data storage device for the sake of convenience, clarity and ease of explanation. However, it

should be understood
that each of systems 5, 7 and 9 can likewise have an individual electronic
memory circuit incorporated therein from which the data can be outputted to
computer 4 via home unit 41. In fact, this is the case for each of the
specific implementations discussed above. However it should be understood that
each of those implementations was disclosed in he patent document as an
individual monitoring unit. It is clearly not necessary to have individual
storage devices when the three monitoring systems are combined in a single
unit. Thus, for example, if the monitoring for the three advertisement media
is incorporated into, for example, a wristwatch, the wristwatch will have only
one electronic memory circuit 3 into which data from all the monitoring systems
is stored. On the other hand, should individual monitoring systems be
preferred for a particular application, each can have its own storage device.
Then, as stated above, the data from each such storage device is downloaded
into computer 4 without a further intervening memory circuit 3.

Detailed Description Text - DETX (13):

As far as circuit 27 is concerned, stores run various promotions to make the
purchase of a product particularly attractive during a given period of time.
Such promotions can involve coupons for lowering the price if a coupon is
turned in, 2 for 1 sale, oversize containers sold for the same price,
manufacturer rebates, combining one product with another product, free
giveaways, eligibility for a prize drawing, etc. Such promotions are stored in

a memory of circuit 27 in association with the product to which e promotion is
applied. All of the products being promoted are, of course, stored in the
memory of circuit 27. When a product code is entered into circuit 27, the
promotion associated with it is outputted and stored in temporary promotion
memory 33. FIG. 2 shows temporary memories 29, 31 and 33 connected to keypad
15 so that information to be stored therein can be entered directly from the
keypad in case the necessary information has not been stored in circuits 23, 25
and 27, respectively.

Detailed Description Text - DETX (19):

When the consumer returns home with the purchased goods and the
machine-readable record 13 of the purchased goods, home unit 41 depicted in
FIG. 3 is made available for use therewith. Record 13 is inserted into
purchases record reader 43 which is capable of reading magnetic stripe 13b.
Thus, as record 13 passes through reader 43, all of the information stored on
magnetic stripe 13b is detected and outputted for storage in monitoring memory
45. Monitoring memory 45 also receives the advertising monitoring information
from memory 3 in advertising monitoring system 1. For example, as disclosed
above, memory 3 can be incorporated into a watch with suitable ports and
controls to download its memory contents into memory 45. Thus, memory 45
stores the advertising information, as obtained from memory 3, and the purchase
information, as received from reader 43. That information can be downloaded to
computer 4. Computer 4 could, for example, be located at a remote computing

center, and the downloading would be done by telephone using conventional means. Alternatively, all of the information stored in memory 45 can recorded on a magnetic disc, and that disc can then be sent to the computing center.

Detailed Description Text - DETX (20):

With the technique of the present invention as described up to this point, it is possible to collect a vast amount of purchasing information with minimal expenditures for specialized equipment and with only a relatively minor effort on the part of the consumer. It will be recalled that one of the above-discussed prior art techniques was of limited value because it involved the necessity of installing a significant amount of computing power in a store, and this for practical reasons could only be done in a very few stores. However, with the present invention, the cash register needs only to be modified to provide a machine-readable record, such as magnetic stripe 13b. If information on promotions is also desired, then only an additional relatively straightforward modification is also required. Consequently, the expenditures required in the stores to accommodate the technique of the present invention is minimal. Therefore, many stores can be covered by suitably retrofitting their cash registers at relatively low cost. Also, it is not necessary to install a powerful computer in the store itself, contrary to the necessity for doing so in the prior art.

Detailed Description Text - DETX (26):

It was explained above that direct mail advertising constitutes a

significant percentage of the total amount spent on advertising, but the advertiser is left in the dark as to whether the consumer even opened the envelope or proceeded to directly toss it away. The present invention lends itself very well to monitoring the impact of direct mail advertising on the consumer. In particular, one or both of readers 43 and 49 in home unit 41, or a separately provided reader (not shown), could be adapted to scan a specially provided code on the envelope or on literature, such as coupons, sent inside the envelope. The former approach could combine the reader with an automatic envelope opener to increase the likelihood that the contents of the envelope will be examined. The latter approach is inherently indicative of the fact that the envelope has been opened and its contents exposed to the consumer.

Thus, if a coupon sent with direct mail advertising is scanned by home unit 41 and recorded in monitoring memory 45, the advertiser can determine whether that coupon was actually used by the consumer in making a purchase since the coupon code can be recorded by reader 37 in the terminal in FIG. 2. Reader 37 is provided with apparatus capable not only of reading card 39 but also coupons as well. Alternatively, a separate reader (not shown) can be provided for this purpose. The construction of such apparatus is readily apparent to one skilled in the art and, consequently, details thereof need not be provided. Thus, the advertiser can determine, on the one hand, whether the consumer was exposed to the coupon based on information recorded by home unit 41 and, on the other hand, whether the coupon had its desired effect in getting

the consumer to make
a purchase based on information recorded by the store terminal. If it is
determined based on this technique that the coupon did not provide the
necessary incentive for the consumer to purchase the particular product, then
the advertiser might try increasing the value of them coupon in order to assess
whether that will have the desired effect. Consequently, the present invention
provides the advertiser with a very powerful tool to determine, first, whether
direct mail advertising is exposed to the consumer and, secondly, whether such
advertising had its desired effect and, if not, whether the desired effect can
be obtained by changing the direct mail advertising campaign.

Detailed Description Text - DETX (28):

The value of the present invention can be enhanced by providing home unit 41
with the capability of carrying out computer processing by CPU ,i.e. central
processing unit) 55 and a printer 57. CPU 55 is a programmable digital
computer capable at least of communicating with another computer, controlling a
printer, and controlling operation of an electronic memory. In fact,
monitoring memory 45 can be a part of CPU 55. This type of apparatus is
conventional and well known. CPU 55 is in communication with monitoring memory
45 both to receive data therefrom on line 59 and to provide instructions
thereto on line 61. Of course, lines 59 and 61 can also be implemented in the
form of a bus. CPU 55 is connected to printer 57 for providing data to, and
controlling the operation of, printer 57. CPU 55 also receives data and

control signals on line 63 from computer 4. Monitoring memory 45 provides an output on line 65 to computer 4. Lines 63 and 65 can be one and the same.

Detailed Description Text - DETX (30):

CPU 55 controls monitoring memory 45 to establish certain "areas" in the monitoring memory which correspond to categories of products and/or services,. Thus, for example, a particular area in monitoring memory 45 would be assigned to health related products, such as mouthwash, toothpaste, etc. Another such category would be assigned to cereals, while still another would be assigned to items of clothing. As the purchasing information is input to monitoring memory 45 from purchases record reader 43 in home unit 41, the purchase information is routed to these categories based on the code associated with each purchased item. When, for example, five items have been recorded into a particular category, this is detected by CPU 55 based on data provided to it on line 59, and CPU 55 responds by controlling printer 57 to generate a coupon as a reward to the consumer.

Detailed Description Text - DETX (31):

The manner in which CPU 55 is programmed to carry out this operation is shown by the flowchart depicted in FIG. 4. Step 70 is carried out in response to signals from computer 4 provided to CPU 55 on line 63. The control signals from computer 4 are used by CPU 55 in step 70 to set the categories based on one or more codes respectively corresponding to purchased products and/or services. Each of these categories is assigned an area in monitoring memory

45. Of course, anyone skilled in the art knows that the mention of "area" is
only a graphical way of picturing what is really occurring in monitoring memory
45. It is not necessary to actually have an area, as such. This merely refers
to the assignment of addresses in memory which are associated with a particular
category. In any case, when the categories are set into monitoring memory 45
in the manner described just above, CPU 55 proceeds in step 72 to set reward
parameters for each of these categories. This is done also based on signals
provided on line 63 from computer 4. Such a parameter can be, for example, the
number of entries stored for each category. This number can, of course, vary
from category to category. The reward parameter can also be time. In
particular, a reward can be generated only if the purchase is recorded within a
particular time from when the purchase was actually made, as is determinable
from the time and data information stored on record 13.

Detailed Description Text - DETX (32):

Per step 74, CPU 55 also stores a specific reward for each category. Again,
this is done based on signals received on line 63 from computer 4. The reward
can be the same regardless of the identity of the consumer if it depends, for
example, strictly on the number of entries stored in the category or the
elapsed time, as explained above. On the other hand, the reward can also be
targeted to particular individuals. Thus, if the reward is such as to be based
on the personal code obtained from record 13 or reader 49, CPU 55 can determine
whether the consumer is a male or a female from a profile of the consumer

stored in CPU 55 and accessible with the personal code store on record 13 or
entered with reader 51. The reward might be different for a male consumer than
if a female is thusly identified. Decision box 76 represents steps carried out
to determine whether the reward parameter set for any of the product/service
categories has been reached. If one has not been reached, then a loop is
established which repeats this test. If one has been reached, then step 78
controls printer 57 to print out the reward which corresponds to the particular
category involved. Thus, this provides a powerful tool for instantly rewarding
the consumer by virtue of providing the means in the home of the consumer which
monitor, record, process, analyze and immediately respond to the data collected
in monitoring memory 45 for generating a reward by virtue of printer 57. In
addition, this technique provides the advertiser with the capability of
targeting the reward based on the actual purchases that are made and/or to a
particular consumer. Thus, a different reward will be generated if the
consumer is purchasing soda beverages than if the purchased product is ice
cream. Also, if a male consumer purchases ice cream, the reward might be a
coupon for more ice cream. However, if a female purchases the ice cream, then
the reward might be a coupon for ice cream dishes, for example.

Detailed Description Text - DETX (34):

FIG. 5 shows how CPU 55 can be programmed to implement this technique.
Specifically, based on signals from computer 4 provided on line 63, CPU 55 sets
special categories into monitoring memory 45 much in the

same way as this was done in FIG. 4. These special monitoring categories can be for both the monitoring of advertisements to which the consumer was exposed as well as to the monitoring of the consumer purchasing behavior. Thus, one category could be set for only television programs watched by the consumer, similar to Nielsen ratings, and/or monitoring of television commercials. Another category could be set for the purchase of a particular product or group of products. This setting of categories is represented in step 80. CPU 55 then sets control parameters for each of these special monitoring categories. This is represented by step 82 which is also carried out in accordance with signals from computer 4. The control parameter can be, for example, the receipt of a trigger signal from computer 4 on line 63. Another control parameter might be the occurrence of a pre-set number of items in a particular category. Thus, if the consumer has purchased five boxes of cereal on a particular shopping expedition, this occurrence can be detected by judicious setting of the control parameter so that the advertiser can identify every household which is a heavy user of cereals. Another control parameter might be time, so that a purchase made on a particular day of the week, for example, will be identified. In any case, decision box 84 senses whether such a control parameter has occurred. For example, it can be determined whether a triggering signal has been detected from computer 4. If so, then all of the categories associated with that trigger signal will be transmitted per step 86 to computer 4 for additional

processing. This approach makes it possible to focus on only a certain limited portion of the total amount of data stored in monitoring memory 45. Thus, if an advertiser must have results very quickly, his product is separated into a special category and suitable control parameters are set. Then, only his data must be transmitted to computer 4, collected, processed, analyzed and output. This is a very valuable feature made available with the present invention. In addition, a large increase in the number of consumer test subjects is possible because only a limited portion of the data generated by all of them needs to be retrieved from monitoring memory 45 and processed in order to obtain the results of greatest immediate interest.